

National Ambient Air Quality Standards

The federal Clean Air Act established national air quality standards. **Primary standards** set limits to protect public health which includes the health of "sensitive" populations such as asthmatics, children, and older adults. **Secondary standards** set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings. National Ambient Air Quality Standards (NAAQS) are set for six principal pollutants called "criteria" pollutants. Air standards are measured in units of parts per million (ppm) by volume, milligrams per cubic meter of air (mg/m^3), and micrograms per cubic meter of air ($\mu\text{g}/\text{m}^3$).

| Pollutant | Primary Standards | Averaging Times | Secondary Standards | |
|--|--|--------------------------|---|---|
| Carbon Monoxide | 9 ppm ($10 \text{ mg}/\text{m}^3$) | 8-hour | None | Not to be exceeded more than once per year. |
| | 35 ppm ($40 \text{ mg}/\text{m}^3$) | 1-hour | None | Not to be exceeded more than once per year. |
| Lead | $0.15 \mu\text{g}/\text{m}^3$ | Rolling 3-Month | Same as Primary | To attain this standard, the rolling three-month period average over three years is not to be exceeded. (final rule October 15, 2008) |
| Nitrogen Dioxide | 0.053 ppm ($100 \mu\text{g}/\text{m}^3$) | Annual (Arithmetic Mean) | Same as Primary | Not to be exceeded. |
| Particulate Matter - PM_{10} | $150 \mu\text{g}/\text{m}^3$ | 24-hour | Same as Primary | Not to be exceeded more than once per year on average over three years. |
| Particulate Matter - $\text{PM}_{2.5}$ (Fine Particulate) | $15.0 \mu\text{g}/\text{m}^3$ | Annual (Arithmetic Mean) | Same as Primary | To attain this standard, the 3-year average of the weighted annual mean $\text{PM}_{2.5}$ concentrations from single or multiple community-oriented monitors must not exceed $15.0 \mu\text{g}/\text{m}^3$. |
| | $35 \mu\text{g}/\text{m}^3$ | 24-hour | Same as Primary | To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed $35 \mu\text{g}/\text{m}^3$ (effective December 17, 2006). |
| Ozone | 0.08 ppm (1997 std) | 8-hour | Same as Primary | The 1997 standard remains for implementation purposes addressing the transition to the 2008 ozone standard. The 3-year average of the fourth-highest daily maximum 8-hour average concentration within an area must not exceed 0.08 ppm . |
| | 0.075 ppm (2008 std) | 8-hour | Same as Primary | To attain the 2008 standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm . (effective May 27, 2008) |
| Sulfur Dioxide | 0.03 ppm | Annual (Arithmetic Mean) | ----- | Not to be exceeded. |
| | 0.14 ppm | 24-hour | ----- | Not to be exceeded more than once per year. |
| | ----- | 3-hour | 0.5 ppm ($1300 \mu\text{g}/\text{m}^3$) | Not to be exceeded more than once per year. |